Exploring factors that predict the encounter of barriers to learning in Massive Open Online Courses

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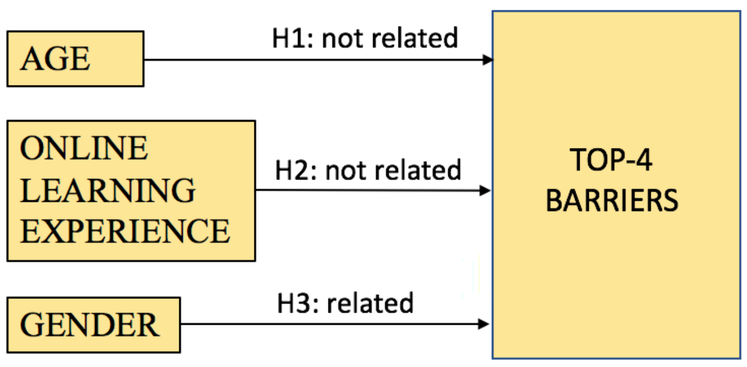
INTRODUCTION

Research on barriers to learning in MOOCs illustrated that most learners come across barriers to a greater or lesser extend (Khalil & Ebner, 2014), which may hinder or prevent them from reaching their personal learning goals (Henderikx, Kreijns & Kalz, 2017a). Many researchers investigated whether factors like age (Greene, Oswald & Pomeranz, 2015), gender (Cole, Shelly, & Swartz) or online learning experience (Marks, Sibley, & Arbaugh, 2005) influenced academic achievement or satisfaction. Yet, research on investigating the relationship between certain learner characteristics and the likelihood of encountering barriers to MOOC-learning is sparse. With this study we aimed to address this gap to further advance our knowledge about learning in open learning environments like MOOCs.

RESEARCH QUESTIONS & HYPOTHESIS

RQ1 → What are the top-4 barriers to MOOC learning encountered by the survey participants



H1 → Age is not related to the encounter of the top-4 barriers

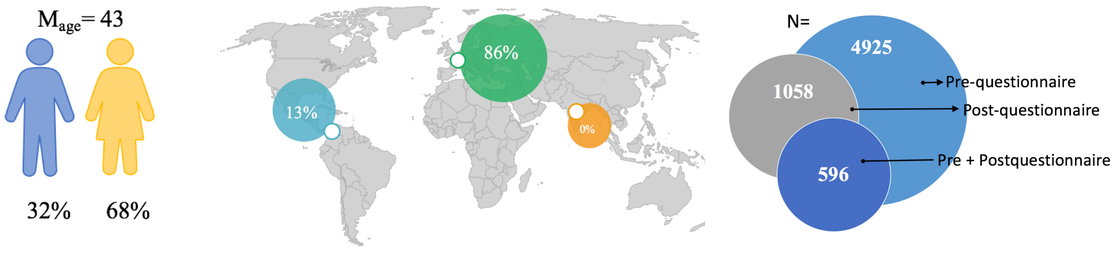
H2 → Gender is related to the encounter of the top-4 barriers

H3 → Online Learning experience is not related to the encounter of barriers

METHOD

Participants and materials

Participants were learners who speak the Spanish language and participated in one or more of 13 MOOCs offered by Educalab, an innovation centre from the Spanish Ministry of Education.

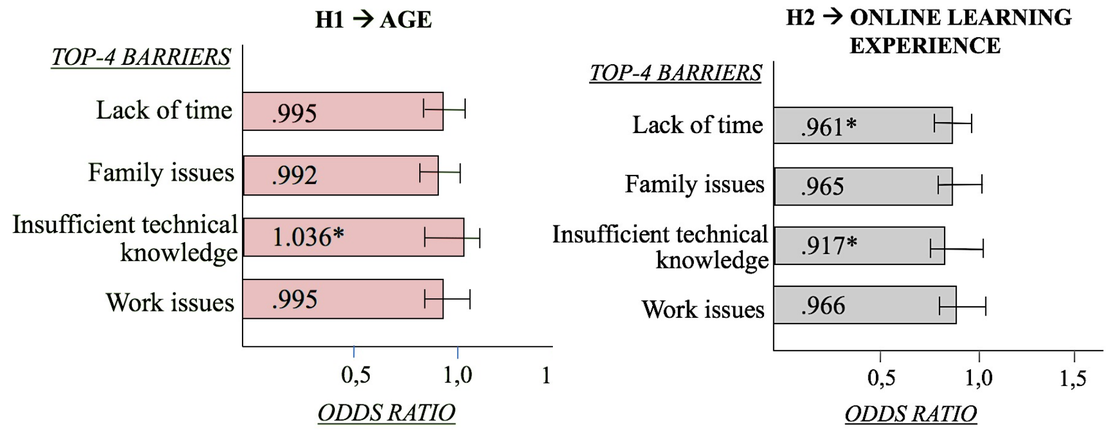


These questionnaires included several questions on age, gender, online learning experience (number of MOOCs taken in the past) and experienced barriers.

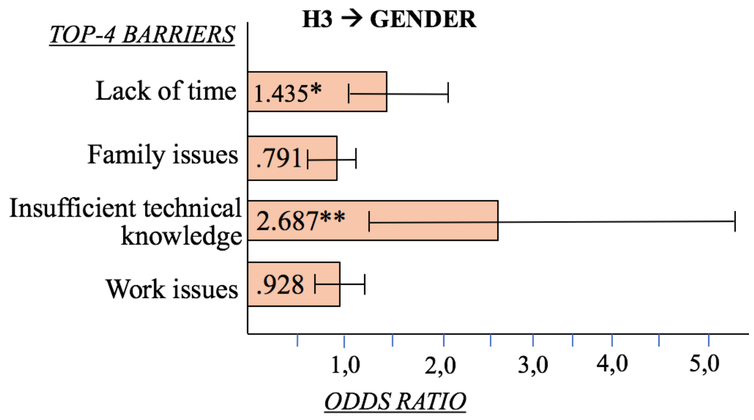
Analysis

Four 3-predictor logistic regression models were fitted to the data to test the hypotheses.

RESULTS

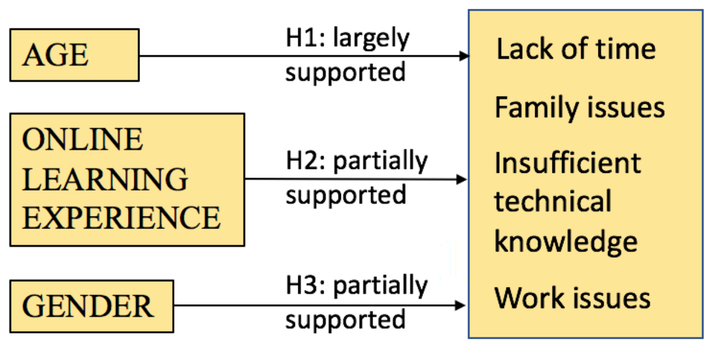


Females are 43,5% more likely to suffer from 'lack of time' than men. Also, females are 168,7% more likely to lack technical knowledge than men. With an increase of one year in age participants are 3,6% more likely to lack technical knowledge, and with each additional MOOC taken in de past the chance of a participant lacking in time decreases with 3,9% per MOOC.



Note: * $p < .05$
** $p < .01$

CONCLUSIONS



The main conclusions are that gender and OLE were found to be significant predictors for both 'lack of time' and 'insufficient technology background'. This is partially consistent with H1 and not consistent with H3. Also, age is related to 'insufficient technology background', which is not consistent with H2. More extensive research is necessary to further untangle the online learning process. This and future knowledge can be used to support, advise and prepare (potential) MOOC-learners embarking on new learning adventures.

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